

## SH A V E R   S P R

### TECHNOLOGY SPHERE

The invention relates to one of the basic needs of ordinary personal men hygiene such as routine hair shaving. Shaving needs are shaving media (soaps or foams) and shavers. There are plenty of different safety razors and electric razors or cutthroat razors that are able to make one's face perfectly shaven.

### TECHNOLOGY STATUS

Shaver (=safety razor) is furnished with a razor blade or steel cutting edge with one-side edge. To achieve higher shaving efficiency modern shavers are provided with two or even three inline cutting edges. During shaving the hair is cut off by the first cutting edge then by the second one and finally by the third one. Complete absence of shaving media before using second eventually third cutting edge during shaving is something to be desired when using all these shavers. Shaving media is always removed from the face by the first razor-edge so shaving without any shaving media made by second eventually third razor-edge is not perfect (so-called "dry shaving").

Shaving media make shaving easier and also protect the skin. They are supplied to the consumer in different packing but mostly in sprays. In accordance to directions for use pressurised shaving foam layer should be applied on wet skin by hand. Mutual connection of a shaver and shaving media that both are used for one purpose - shaving is another thing to be desired.

### THE NATURE OF THE INVENTION

To link together both still separated but essential shaving tackle i.e. shaving media and shaver. To create one compact shaving set - shaver SPR - as well as to improve shaving with all cutting edges at the same time.

Shaver SPR consists of three main parts: **P r o t e c t i o n   c a p** with several holes and cross ribbing. **C u t t e r   b l o c k** with cutting edges, hollow duct for controlled pressurised shaving foam flow and rotary regulator. **S h a v e r   h a n d l e** consists of pressurised shaving foam container in spray.

**P r o t e c t i o n   c a p** protects cutting edges during transport and with the help of its holes and cross ribbing it also makes possible to spread uniform layer of shaving foam on wet face before shaving. Only by pushing it is easily hold with its shoulders by the edge of the cutting block. When hold the protection cap also covers side holes of the cutting block. After spreading shaving foam on the face the protection cap is taken off or unmoulded.

**C u t t e r   b l o c k** with cutting edges is provided with the hollow duct moving into three cracks and ending in front of the second cutting edge. The cutter block is

also provided with rotary regulator to control smooth pressurised shaving foam flow. During shaving a quantity of shaving foam squeezed from the spray flows through the duct and cracks in front of the second cutting edge. The first cutting edge together with shaving foam spread on the face trims maximum of a hair in the same way. At the same time new shaving foam is being expelled through the cracks on the face in front of the second cutting edge. The second cutting edge with the help of shaving foam trims the rest of a hair and that is expelled (flows out) through the side holes of the cutter block under pressure of the shaving foam. The regulator should protect against accidental shaving foam flow by its position or by locking.

Shape of the shaver handle that consists of a spray with shaving foam is given ergonomically so that holding it in one's hand during shaving would be as comfortable as using electric shavers. Spray capacity of 70 g, app. load of 50 ml is sufficient and it corresponds to the cutting edges depreciation. Spray packaging (tare) is metal, plastic or glass with standard cap. In addition to that there is two-way valve for expelling the shaving foam in two operating positions - vertically with the cap facing up and the other way round. To use up the load of the container completely there should be some mark or projection for orientation of a spray position.

### SUMMARY OF PICTURES ON THE DRAWINGS

Shaver SPR in picture 1 shows the nature of the invention. This picture together with annotation could be published. A part of cutter block with a duct moving into three cracks and ending in front of the second cutting edge together with side holes is shown in picture 2. Protection cap with holes and cross ribbing represented there also covers side holes of the cutter block. Picture 2 characterise the valve in a spray for mechanical use of pressurised shaving foam in operating position A and B too. In picture 3 the real shape of shaver SPR with 50 ml container of pressurised shaving foam is shown. There exist a number of proper spray sizes including hand-held version.

### EXAMPLE OF THE INVENTION DESIGN

Shaver SPR function before shaving with the protection cap put on:

By turning the regulator 3 the screwing 7 pushes down the standard stopper 4 of a spray with pressurised shaving foam 8. The foam flows through the hollow duct 5 into cracks and ends in front of the second cutting edge 2 and then through the holes of the protection cap 9 on the wet face. The layer of shaving foam is defined on the face by cross ribbing of the protection cap 9.

Shaver SPR function during shaving without the protection cap:

By turning the regulator 3 the screwing 7 pushes down the standard stopper 4 of a spray with pressurised shaving foam 8. The foam flows through the hollow duct 5 into cracks and ends in front of the second cutting edge 2 and then on the face. The first cutting edge 1 together with the shaving foam spread on the face before shaving trims the maximum of a hair in the same way. At the same time the second cutting edge 2 plus the shaving foam squeezed on the face trims the rest of a hair and that is

expelled (flows) away through the holes 10 in the side part of the cutter block 6. These holes 10 are covered when the protection cap 9 is put on.

The protection cap 9 of shaver SPR should be made of elastic transparent plastic. Production technology of the cutter block 6 with two cutting edges should be supplemented with the hollow duct 5 with three cracks and with the ending in front of the second cutting edge 2. The parts of regulator 3 should be made of plastic and for easier cleaning of cutter block 6 it should be black or grey (Umacryl KI, polystyrene). Control disc of regulator 3 and screwing 7 should be link together with sliding grooving or hexagon.

Assembly of regulator 3 in the cutter block 6 of shaver SPR should be from the side of a spray 8. Its function should be marked by printing or by moulding. Production technology of a spray should be supplemented with two-way valve with automatic changing of the flow when operating position A and B is changed (steel ball etc.). Two-way valve should be integrated with standard stopper 4. Assembly of the cutter block 6 and spray 8 should be fixed with defined operating position A and B. Spray 8 should be marked by printing or by self-adhesive label with the name of a product including directions for use:

“ Wash your face with hot water thereby the hair go soft. Shake before using. Turn the regulator and apply the shaving foam with the protection cap uniformly on the face. Take off the protection cap and control the shaving foam flow to be of economy during shaving. WARNING: Pressurised container do not expose to temperatures exceeding 50°C. Protect from sunlight. Do not pierce or burn, even after use. Part of the contents is flammable.”

### INDUSTRIAL UTILITY

Shavers SPR with different cutter block design could be used only once (single use) or reused:

- a) cutter block + one cutting edge with cracks ending in front of the edge
  - simple design makes fine hair shaving possible or it could be used it in case of an emergency without shaving foam spread on a face before shaving
- b) cutter block for single-use
  - lifetime is limited by depreciation of two firmly located cutting edges as well as by using up the spray with foam
- c) general-purpose cutter block
  - production technology of systems where two worn-out cutting edges as well as the spray with shaving foam could be replaced
- d) cutter block + three cutting edges
  - it is not optimal because of higher shaving foam consumption.

New design of shaver SPR with variable versions makes shaving of superior. The shape of cutter block could be designed in different ways. Speedy, practical, ready (SPR) and in summary compact shaver SPR would be in great demand for millions of men as a necessary hygiene need. Higher social benefit could bring its realisation.